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Recommendation on Lead Staff Paper

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In reviewing the second external review draft of the Staff Paper for Lead the Committee found the document to be clear and appropriate. The Committee makes a number of recommendations concerning improvements in the form and content of the document.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D C 20460

August 29, 1986

OFFICE OF
THE ADMINISTRATOR

Honorable Craig Potter
Assistant Administrator for
Air and Radiation
U.S. Environmental Protection
Agency
Washington, D.C. 20460

Dear Mr. Potter:

At the March 11-12, 1986 Clean Air Scientific Advisory Committee (CASAC) meeting, the Committee reviewed the second external review draft of the Staff Paper for Lead. In general, the CASAC found the document to be clear and appropriate. The major comments provided by the Committee at that meeting along with the major written comments submitted afterwards are formally summarized in this recommendation letter.

The Committee recommends that the Agency undertake the following modifications to the Staff Paper for Lead:

1. Revise the introduction to:

   - Provide a systematic catalogue and ranking of air and non-air sources of exposures.

   - More clearly explain that because of the phase-down of lead in gasoline, EPA's part of the lead problem, which was originally a distributed source problem like other ambient pollutants, is becoming a problem of specific, well-localized sources.

   Some other parts of the lead problem, like the paint problem over which EPA does not have authority, are still distributed source problems. The Staff Paper should also clarify that the primary mechanism of exposure for EPA's part of the problem (airborne emissions) is via ingestion of lead in settled dust and surface dirt, not via direct air exposure. This will require better data on soil/dust fate and mass balance and children's intake.

2. Revise the exposure assessment to make it clearer that the primary sources for current and future exposures are point sources. In particular the Staff Paper should:

   - Critically discuss the problems of using knowledge derived from area sources for studies of point

- Focus and improve the material covered in Appendix B (especially Table B-2) since it drives the analysis of the uncertainty.

- Reevaluate the point source exposure estimates.

- Discuss deposition and size distribution explicitly, both in terms of the deposition on and resuspension from ground surfaces, and in terms of the deposition in the respiratory tract.

- Be more explicit about whom is being protected. The 99.9% approach, as now employed, is ambiguous.

3. Since, in the future, ambient air lead will be attributable to a limited number of definable point sources, CASAC recommends that EPA consider regulating lead through point source controls rather than through the NAAQS.

4. The discussion of measurement would be clearer if it were moved to the end so that the preceeding discussions could motivate it. Measurement poses two needs, with different data requirements for each:

   - Documenting the decline of the motor vehicle sources problem.

   - Controlling the problems of point sources.

5. Explicitly evaluate the degree of protection against cardiovascular effects in adult males provided by the blood lead and air lead levels developed to protect children against neurobehavioral effects. If these levels do not provide adequate protection against adverse cardiovascular effects in adult males, develop new recommendations to provide such protection. This should include an evaluation of the blood lead-blood pressure relationships in adult males, and its implication to the incidence of cardiovascular disease.

6. The perinate should be included as a population at increased risk due to prenatal exposure of the fetus and postnatal exposure of the lactating infant. This concern focuses on the fetus and infant, not on the pregnant mother.

7. Emphasis should be increased on postdepositional exposures to lead as the major route of exposure to airborne lead.

8. The material on health effects should be moved forward so that the discussion on sources and exposures proceeds without interruption.

The comments that form the basis for these recommendations were provided informally to the staff of the Office of Air Quality Planning and Standards after the close of the March 1986 meeting. This letter constitutes the Committee's formal report to the Agency on this stage of the review of the NAAQS for Lead.

The Committee appreciates the opportunity to provide comments on this important issue.

Sincerely,

Morton Lippmann, Ph.D.
Chairman
Clean Air Scientific Advisory
Committee

cc: Lee Thomas
A. James Barnes
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